इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 2837-2 (1977): Porcelain crucibles and basins, Part 2: Basins [CHD 10: Glassware]

"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

"Reaffirmed-1984"

IS : 2837 (Part II) - 1977

(Reaffirmed 2002)

Indian Standard

SPECIFICATION FOR PORCELAIN CRUCIBLES AND BASINS

PART II BASINS

(First Revision)

UDC 666·591 : 542·232·3

© *Copyright* 1978

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Price Rs 5·00 Gr 3

June 1978

Indian Standard

SPECIFICATION FOR PORCELAIN CRUCIBLES AND BASINS

PART II BASINS

(First Revision)

Ceramicware Sectional Committee, CDC 27

Chairman	***Representing***
Dr S. P. Varma	Directorate General of Technical Development, New Delhi
Members	
Shri D. S. Chabhal (*Alternate* to Dr S. P. Varma)	
Assistant Director (MS), RDSO	Railway Board (Ministry of Railways)
Dr S. K. Banerjee	Directorate of Industries, Government of West Bengal, Calcutta
Shri G. K. Bhagat	Bengal Potteries Ltd, Calcutta
Shri L. S. Bharaj	Ministry of Defence (R & D)
Shri K. K. Bhatia	U. P. Ceramics & Potteries Ltd, Ghaziabad
Shri A. K. Bhatia (*Alternate*)	
Shri N. D. Davda	All India Pottery Manufacturers' Association, Calcutta
Shri S. K. Ghosh (*Alternate*)	
Shri S. Deb	Associated Porcelain Pvt Ltd, Calcutta
Shri O. P. Dhamija	Export Inspection Council of India, Calcutta
Shri D. P. Ahuja (*Alternate*)	
Shri M. K. Ganpule	The Parshuram Pottery Works Co Ltd, Wankaner
Shri R. R. Deo (*Alternate*)	
Shri K. K. Ghai	Ministry of Defence (DGI)
Dr S. P. Singh Dhakarey (*Alternate*)	
Dr S. K. Guha	Central Glass & Ceramic Research Institute (CSIR), Calcutta
Shri P. T. Jacob	Kerala Ceramics Ltd, Kundara
Shri R. M. Mehra	Bombay Potteries & Tiles Ltd, Bombay
Shri D. P. Niyogi	Sur Enamel & Stamping Works Pvt Ltd, Calcutta
Shri Pronob Kumar Sur (*Alternate*)	
Shri E. K. Ramachandran	National Test House, Calcutta
Shri G. C. Das (*Alternate*)	

(*Continued on page* 2)

© *Copyright* 1978
INDIAN STANDARDS INSTITUTION
This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(*Continued from page* 1)

Members	*Representing*
Shri P. Jaganath Rao	E. I. D.-Parry Ltd, Ranipet
Dr B. M. Sedalia	Development Commissioner, Small Scale Industries, New Delhi
Shri P. Sur	Vitreous Enamellers' Association, Calcutta
Dr G. M. Saxena, Director (Chem)	Director General, ISI (*Ex-officio Member*)

Secretary

Shri G. P. Saraswat
Deputy Director (Chem), ISI

Ceramic Whiteware Subcommittee, CDC 27 : 2

Convener	
Shri K. K. Bhatia	U. P. Ceramics & Potteries Ltd, Ghaziabad

Members	
Shri A. K. Bhatia (*Alternate* to Shri K. K. Bhatia)	
Shri M. K. Basu	Central Glass & Ceramic Research Institute (CSIR), Calcutta
Dr V. N. Bindal	National Physical Laboratory (CSIR), New Delhi
Shri A. K. Mehrotra (*Alternate*)	
Shri D. S. Chabhal	Directorate General of Technical Development, New Delhi
Shri S. Deb	Association Porcelain Pvt Ltd, Calcutta
Shri R. R. Deo	The Parshuram Pottery Works Co Ltd, Wankaner
Shri D. A. Shah (*Alternate*)	
Shri P. G. Dutta	B. D. Ceramics Pvt Ltd, Calcutta
Shri S. K. Ghosh	India Potteries Ltd, Calcutta
Shri S. C. Sen Gupta (*Alternate*)	
Shri P. C. Kapur	Directorate General of Health Services, New Delhi
Shri B. Kumar	Kumar Manufacturing Co, Howrah
Shri Sushil Ray (*Alternate*)	
Dr V. P. Maheswary	Development Commissioner, Small Scale Industries, New Delhi
Shri L. Ranganathan	Carborundum Universal Ltd, Madras
Shri P. K. B. Roy (*Alternate*)	
Shri P. Jaganath Rao	E. I. D.-Parry Ltd, Ranipet
Shri A. K. Sarkar (*Alternate*)	
Dr N. Venkataraman	Indian Aluminium Co Ltd, Calcutta
Shri A. Chatterjee (*Alternate*)	

Indian Standard

SPECIFICATION FOR PORCELAIN CRUCIBLES AND BASINS

PART II BASINS

(First Revision)

0. FOREWORD

0.1 This Indian Standard (Part II) (First Revision) was adopted by the Indian Standards Institution on 10 October 1977, after the draft finalized by the Ceramicware Sectional Committee had been approved by the Chemical Division Council.

0.2 This standard was first published in 1964. In this revision, while prescribing nominal external top diameter of basins, three series of sizes, namely shallow, medium and deep, based on height/diameter ratio (H/D) as 0·3, 0·4 and 0·5 respectively have been prescribed with a view to catering to wider areas of use. Accordingly, using a logical series and ratios, a total of 23 most common sizes have been prescribed in this standard as covered in Doc : ISO/TC 40/WGL/51 'First ISO Proposal for porcelain laboratory basins' issued by the International Organization for Standardization (ISO).

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard (Part II) prescribes requirements and methods of sampling and test for porcelain basins for general laboratory use.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 2781-1975† shall apply.

---

*Rules for rounding off numerical values (*revised*).

†Glossary of terms relating to ceramicware (*first revision*).

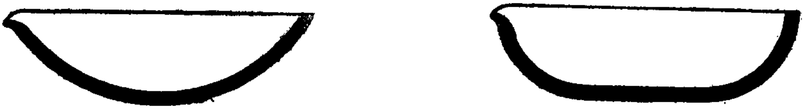
3. TYPES

3.1 Porcelain basins shall be of three types as follows:

Type 1 — Shallow form, based on a height/diameter ratio of 0·3 (*see* Fig. 1A and 1B);

Type 2 — Medium form, based on a height/diameter ratio of 0·4 (*see* Fig. 1C); and

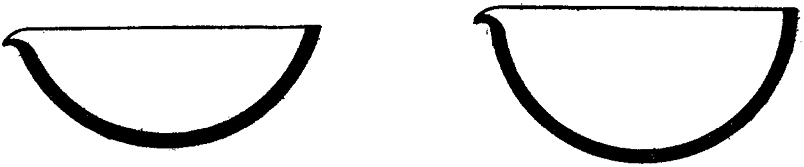
Type 3 — Deep form, based on a height/diameter ratio of 0·5 (*see* Fig. 1D).



1A Basin with round or slightly flat bottom

1B Basin with flat bottom

Shallow form Basin, Type I



1C Medium form basin, Type 2

1D Deep form (hemispherical) basin, Type 3

FIG. 1 TYPES AND FORMS OF PORCELAIN BASINS

4. SIZE DESIGNATION

4.1 Basins shall be designated by the type and the nominal external diameter at the rim in millimetres separated by an oblique mark.

Example:

A porcelain basin of Type 1 (shallow form) having a nominal external diameter 60 mm at the rim, shall be designated as 1/60.

5. REQUIREMENTS

5.1 Material — Basins shall be vitrified porcelain with all surfaces glazed except for the base and rim, which may be left unglazed. They shall satisfy requirements in respect of the following when tested in accordance with the methods prescribed in IS : 2836-1974*:

a) Porosity of body and imperfections of glaze,

b) Resistance of glaze to high temperature,

c) Constancy of mass on heating, and

d) Resistance of glaze to acids and alkalis.

5.1.1 Basins with external diameter up to and including 100 mm shall pass the test for resistance to heat and sudden change of temperature prescribed in Appendix A.

5.2 Construction

5.2.1 *Shape* — Basins shall be symmetrical in shape, except for the lip, where provided, have curved or straight sides and shall be uniform in thickness as far as possible. Basins of Type 1 (shallow form) and Type 2 (medium form) shall have round or slightly flattened bottom. Basins of Type 3 (deep form) shall have round bottom only.

NOTE — Type 1 basins may also have flat bottom (*see* Fig. 1B).

5.2.2 *Lip* — Where provided, basins shall have formed pouring lip and in that case they shall pass the test given below:

> Fill the basin with water to the lip-level. Pour approximately one-fourth of the water from the basin at such a rate that it flows in a continuous stream and falls free from the lip of the basin. If the stream of water clings to the outside of the basin and flows off the bottom, the basin shall be rejected.

5.3 Series of Sizes and Dimensions

5.3.1 *Series of Sizes* — The series of sizes of basins shall be as given in col 3 of Table 1.

NOTE — No values of nominal capacity are specified, but manufacturers may state these for the information of users.

5.3.2 *Dimensions* — Basins shall comply with the dimensional requirements given in Table 1.

---

*Methods of test and quality requirements for porcelain laboratory apparatus (*first revision*).

TABLE 1 SERIES OF SIZES AND DIMENSIONS OF BASINS

(*Clauses* 5.3.1 *and* 5.3.2)

SL No.	TYPE OF BASIN	SERIES OF SIZES (DESIGNATION)	EXTERNAL DIAMETER, *D*		EXTERNAL HEIGHT, *H*	
			Nominal	Tolerance	Nominal	Tolerance
(1)	(2)	(3)	(4)	(5)	(6)	(7)
			mm	± mm	mm	± mm
i)	Type 1 Shallow form ($H/D = 0{\cdot}3$)	1/60	60	3	18	1
ii)	,,	1/75	75	4	22	2
iii)	,,	1/90	90	5	27	2
iv)	,,	1/105	105	5	32	2
v)	,,	1/125	125	6	38	2
vi)	,,	1/150	150	7	45	2
vii)	,,	1/180	180	9	54	3
viii)	Type 2 Medium form ($H/D = 0{\cdot}4$)	2/60	60	3	24	2
ix)	,,	2/75	75	5	30	2
x)	,,	2/90	90	5	36	2
xi)	,,	2/105	105	5	42	2
xii)	,,	2/125	125	6	50	3
xiii)	,,	2/150	150	7	60	4
xiv)	,,	2/180	180	9	72	5
xv)	,,	2/225	225	11	90	5
xvi)	,,	2/300	300	15	120	6
xvii)	Type 3 Deep form ($H/D = 0{\cdot}5$)	3/60	60	3	30	2
xviii)	,,	3/75	75	5	38	2
xix)	,,	3/90	90	5	45	2
xx)	,,	3/105	105	5	53	3
xxi)	,,	3/125	125	6	63	4
xxii)	,,	3/150	150	7	75	5
xxiii)	,,	3/180	180	9	90	5

NOTE 1 — The nominal height has been obtained by applying the appropriate ratio H/D to the nominal diameter and then rounding to whole millimetre.

NOTE 2 — Nominal diameter takes no account of the lip.

6. MARKING AND PACKING

6.1 Marking — Basins shall be marked suitably with the following:

a) Manufacturer's name or registered trade-mark, if any; and

b) Size designation (*see* **4.1**).

6.1.1 Basins may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

6.2 Packing — Basins shall be packed as agreed to between the purchaser and the supplier.

7. SAMPLING

7.1 The method of drawing representative samples and the criteria for conformity of the material to the requirements of this standard shall be as prescribed in Appendix B.

APPENDIX A

(*Clause* 5.1.1)

TEST FOR RESISTANCE TO HEAT AND SUDDEN CHANGE OF TEMPERATURE

A-0. GENERAL

A-0.1 This test is applicable to basins not exceeding 100 mm in external diameter.

A-1. REAGENTS

A-1.1 Eosin Solution — 0·5 percent (*m/v*) in water.

A-2. APPARATUS

A-2.1 The apparatus consists of a hollow cooling chamber, provided with inlet and outlet connections. The upper surface of the hollow chamber shall be concaved to accommodate the basin in such a manner that the outer surface of the basin is in good contact with the lid of the chamber. Fuel oil or mercury may be used for assuring good contact.

A-3. PROCEDURE

A-3.1 Place the basin over a wire gauze and heat to red heat over a strong Bunsen burner flame for about 45 minutes and suddenly place it in the concaved portion of the cooling chamber with water running through it constantly at room temperature.

A-3.1.1 Then immerse the basin in the eosin solution and take it out. The basin shall not show any crack in the glaze or body.

APPENDIX B

(*Clause* 7.1)

SAMPLING OF PORCELAIN BASINS

B-1. SCALE OF SAMPLING

B-1.1 Lot — All basins of the same type, produced under essentially similar conditions of manufacture and offered for inspection at one time, in a single consignment, shall be grouped together to constitute a lot.

B-1.2 The conformity of basins in the lot to the requirements of this specification shall be ascertained for each lot separately.

B-1.3 The number of basins to be sampled from each lot shall depend on the size of lot and shall be in accordance with col 1 and 2 of Table 2.

TABLE 2 SCALE OF SAMPLING

(*Clauses* B-1.3, B-2.1, B-2.2 *and* B-2.3)

No. of Basins in the Lot, N (1)	No. of Basins to be Sampled for Shape and Dimensions Given in **B-2.1**, n (2)	Permissible No. of Defectives (3)	No. of Basins to be Tested for Characteristics Given in **B-2.2** (4)	No. of Basins to be Tested for Requirements Given in **B-2.3** (5)
Up to 50	8	0	4	3
51 ,, 100	13	1		3
101 ,, 500	20	2	12	3
501 ,, 3 000	32	3	20	6
3 001 and above	50	5	32	6

B-1.3.1 These basins shall be selected at random from the lot. In order to ensure the randomness of selection, random number table shall be used. For guidance and use of random number tables, IS : 4905-1968* may be referred. In the absence of a random number table, following procedure may be adopted:

> Starting from any basin in the lot count them as 1,2 .... , etc up to r and so on where r is the integral part of N/n (N being the number of basins in the lot and n the number of basins to be selected from the lot). Every rth basin thus counted shall be withdrawn to constitute the sample.

---

*Methods for random sampling.

B-2. NUMBER OF TESTS AND CRITERIA FOR CONFORMITY

B-2.1 Shape and Dimensions (5.2 and 5.3) — Each of the basins selected according to **B-1.3** shall be examined for these requirements. Any basin failing to meet any of these requirements shall be considered as defective. The lot shall be considered as conforming to these requirements if the number of defectives found in the sample is less than or equal to the corresponding number of defectives given in col 3 of Table 2; otherwise not.

B-2.2 Porosity of Body and Imperfections of Glaze, Resistance to Heat and Sudden Change of Temperature, Resistance of Glaze to High Temperature and Constancy of Mass on Heating (5.1) — Tests for these requirements shall be conducted on the number of basins given in col 4 of Table 2, which shall be selected at random from those found satisfactory according to **B-2.1**. A fresh basin shall be used for each test. The lot shall be considered as conforming to these requirements if none of the basins so tested fails in any of the tests.

B-2.3 Resistance of Glaze to Acids and Alkalis (5.1) — Tests for these requirements shall be conducted on the number of basins given in col 5 of Table 2. These basins shall be selected at random from those already tested and found satisfactory in **B-2.1**. These basins shall be equally divided for testing resistance of glaze to the following:

a) Hydrochloric acid,
b) Sodium carbonate solution, and
c) Sodium hydroxide solution.

The lot shall be considered as conforming to these requirements if none of the basins so tested fails in any of the tests.

B-2.4 The lot shall be declared as conforming to the requirements of this specification if **B-2.1**, **B-2.2** and **B-2.3** are satisfied.

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

Quantity	Unit	Symbol
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

Quantity	Unit	Symbol
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

Quantity	Unit	Symbol	Conversion
Force	newton	N	1 N = 0·101 972 kgf
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m^2
Frequency	hertz	Hz	1 Hz = 1 c/s (s^{-1})
Eletric conductance	siemens	S	1 S = 1 A/V
Pressure, stress	pascal	Pa	1 Pa = N/m^2

INDIAN STANDARDS INSTITUTION
Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002
Telephone : 27 01 31 (20 lines) **Telegrams : Manaksanstha**

Regional Offices :

		Telephone
Western : Novelty Chambers, Grant Road	BOMBAY 400007	37 97 29
Eastern : 5 Chowringhee Approach	CALCUTTA 700072	23-08 02
Southern : C.I.T. Campus, Adyar	MADRAS 600020	41 24 42

Branch Offices :

'Pushpak' Nurmohamed Shaikh Marg, Khanpur	AHMADABAD 380001	2 03 91
'F' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	2 76 49
Showhouse Bldg, Sachivalaya Marg	BHUBANESHWAR 751001	5 36 27
Ahimsa Bldg, SCO 82-83, Sector 17C	CHANDIGARH 160017	2 83 20
5-8-56/57 L. N. Gupta Marg	HYDERABAD 500001	22 10 83
D-277 Todarmal Marg, Banipark	JAIPUR 302006	6 98 32
117/418 B Sarvodaya Nagar	KANPUR 208005	82 72
B.C.I. Bldg (3rd Floor), Gandhi Maidan East	PATNA 800004	5 36 55
Hantex Bldg (2nd Floor), Rly Station Road	TRIVANDRUM 695001	32 27

Printed at Printograph, New Delhi, India